Amendments to the Claims:

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-29 (canceled)

Claim 30 (previously presented): A device, adapted to be mounted on a vehicle tire, for obtaining energy from the load-induced tire deflections of at least one tire inner wall while rotating upon a load-bearing surface, the device comprising:

a substrate;

an energy converter, mounted on the substrate, coupled to said deflections and converting said deflections into pulsed electrical output energy;

capture electronics for capturing said pulsed electrical output energy, wherein said capture electronics maximizes the captured energy by adaptation to at least one characteristic of the pulsed electrical energy:

at least one capacitor where the said at least one characteristic is the pulse width of the pulsed electrical energy; and

the adaptation is to select the value of the at least one capacitor based on the pulse width of the pulsed electrical energy.

Claim 31 (previously presented): A device, adapted to be mounted on a vehicle tire, for obtaining energy from the load-induced tire deflections of at least one tire inner wall while rotating upon a load-bearing surface, the device comprising:

a substrate;

an energy converter, mounted on the substrate, coupled to said deflections and converting said deflections into pulsed electrical output energy;

capture electronics for capturing said pulsed electrical output energy, wherein said capture electronics maximizes the captured energy by adaptation to at least one characteristic of the pulsed electrical energy;

at least one capacitor where the said at least one characteristic is the voltage captured on the at least one capacitor from the pulsed electrical energy; and

the adaptation is to select the at least one capacitor value based on said voltage.

Claims 32-55 (canceled):

Claims 56-58 (canceled):

Claim 59 (previously presented): In a tire adapted to be mounted on a vehicle wheel, a device for obtaining energy from the tire while said tire is rotating upon a load-bearing surface, the device comprising:

a substrate attached to the tire at a selected radial and circumferential location;

an energy converter mounted on the substrate, the converter being disposed to respond to the load induced deflections of at least one tire inner wall to convert said deflections to pulsed electrical output energy;

capture electronics for capturing said pulsed electrical output energy, wherein said capture electronics further determines at least one feature of the pulsed electrical energy and adaptively changes its configuration so as to maximize the energy captured; and

at least one capacitor for capturing the said pulsed electrical energy and wherein the said at least one feature is the electrical energy pulse width and said configuration is adapted by selecting the capacitor value based on said pulse width.

Claim 60 (previously presented): In a tire adapted to be mounted on a vehicle wheel, a device for obtaining energy from the tire while said tire is rotating upon a load-bearing surface, the device comprising:

a substrate attached to the tire at a selected radial and circumferential location;

an energy converter mounted on the substrate, the converter being disposed to respond to the load induced deflections of at least one tire inner wall to convert said deflections to pulsed electrical output energy;

capture electronics for capturing said pulsed electrical output energy, wherein said capture electronics further determines at least one feature of the pulsed electrical energy and adaptively changes its configuration so as to maximize the energy captured; and

at least one capacitor for capturing the said pulsed electrical energy and wherein the said at least one feature is the voltage captured on the at least one capacitor from the pulsed electrical energy and said configuration is adapted by selecting the at least capacitor value based on said voltage.

Claims 61-63 (canceled):

Claim 64 (withdrawn): In a vehicle tire adapted to be mounted on a vehicle wheel, a device for monitoring at least one tire parameter and obtaining energy from the tire while the tire rotates upon a load-bearing surface, the device comprising:

at least one sensor to monitor the at least one tire parameter and producing a signal representative of the parameter;

a vehicle transmitter, coupled to said signal, for transmitting a representation of the signal to a remote vehicle receiver;

an energy converter disposed to respond to the load induced deflections of at least one tire inner wall and being adapted to convert said deflections into an energy output form; and

an energy transmitter coupled to said output energy to transmit said energy for use by said device.

Claim 65 (canceled):

Claim 66 (withdrawn): A method for obtaining electrical energy from a vehicle tire while said tire is rotating upon a load-bearing surface comprising the steps of:

coupling an energy converting device to the load-induced deflections of at least one tire inner wall;

providing pulsed electrical energy output in response to said deflections;

determining at least one feature of the electrical energy pulses;

capturing the electrical energy pulses on a capturing mechanism;

adapting the capturing mechanism to maximize the electrical energy capture based on at least one feature of the pulses; and

outputting the captured electrical energy.

Claim 67 (withdrawn): The method according to claim 66 wherein said at least one feature is the pulse width.

Claim 68 (withdrawn): The method according to claim 66 wherein the source resistance of the energy converting device is known and said at least one feature is the ratio of the pulse width to the resistance.

Claim 69 (withdrawn): The method according to claim 66 wherein the at least one feature is the energy captured.

Claim 70 (withdrawn): A method for adapting a pulsed energy capture device, having at least one capacitor, to maximize the captured energy comprising the steps of:

determining the pulse width of the energy pulses;

selecting the at least one capacitor based on said pulse width;

using the selected at least one capacitor to capture the energy pulses; and

outputting the captured energy.

Claim 71 (withdrawn): The method according to claim 70 wherein the pulsed energy source is electrical.

Claim 72 (withdrawn): A method for adapting a pulsed energy capture device, having at least one capacitor, to maximize the captured energy comprising the steps of:

determining the pulse width of the energy pulses;

determining the source resistance of the pulsed energy source;

selecting the at least one capacitor based on the ratio of the pulse width to said resistance;

using the selected at least one capacitor to capture the energy pulses; and

outputting the captured energy.

Claim 73 (withdrawn): The method according to claim 72 wherein the pulsed energy source is electrical.

Claim 74 (withdrawn): A method for adapting a pulsed energy capture device, having at least one capacitor, to maximize the captured energy comprising the steps of:

capturing the energy pulses on the at least one capacitor;

outputting the captured energy;

determining the energy captured on the at least one capacitor; and

selecting the at least one capacitor based on the energy.

Claim 75 (withdrawn): The method according to claim 74 wherein the pulsed energy source is electrical.

Claim 76 (withdrawn): A method for determining the time duration of the load bearing surface contact region from a vehicle tire while rotating upon the load-bearing surface, comprising the steps of:

coupling an energy converter to the load-induced deflections of at least one tire inner wall;

providing pulsed energy output in response to said deflections; and

determining the duration of the contact based on the time between rising and falling edges of the pulses.

Claim 77 (withdrawn): A method for determining the length of the load bearing surface contact region of a vehicle tire of known radius while rotating upon the load-bearing surface, comprising the steps of:

coupling an energy converter to the load-induced deflections of at least one tire inner wall surface;

providing pulsed energy output in response to said deflections;

determining the duration of the contact based on the time between the rising and falling edges of the pulses;

determining the period between contact regions;

calculating the length from the duration and period and the known tire radius.

Claim 78 (withdrawn): The method according to claim 77 where the period is determined by measuring the time between contact regions based on the rising or falling edges of the pulses.

Claim 79 (withdrawn): A run flat tire having an inner core adapted with a cutout that accommodates a device mounted on an inner surface and protects said device as the tire is run flat.

Claim 80 (canceled):

Claim 81 (previously presented): A device, adapted to be mounted on a vehicle tire, for obtaining energy from the load-induced tire deflections of at least one tire inner wall while rotating upon a load-bearing surface, the device comprising:

an energy converter coupled to said deflections and converting said deflections into pulsed electrical energy, and

capture electronics for capturing said pulsed electrical energy,

wherein said capture electronics maximizes the captured energy by adaptation to at least one characteristic of the pulsed electrical energy, and wherein said capture electronics comprises:

at least two capacitors where the said at least one characteristic is the pulse width of the pulsed electrical energy; and

the adaptation is to enable the combination of said at least two capacitors based on the pulse width.

Claim 82 (previously presented): A device, adapted to be mounted on a vehicle tire, for obtaining energy from the load-induced tire deflections of at least one tire inner wall while rotating upon a load-bearing surface, the device comprising:

an energy converter coupled to said deflections and converting said deflections into pulsed electrical energy, and

capture electronics for capturing said pulsed electrical energy,

wherein said capture electronics maximizes the captured energy by adaptation to at least one characteristic of the pulsed electrical energy, and wherein said capture electronics comprises:

at least two capacitors where the said at least one characteristic is the voltage captured on the at least two capacitors from the pulsed electrical energy; and

the adaptation is to enable the combination of said at least two capacitors based on the voltage.

Claims 83-86 (canceled):

Claim 87 (previously presented): A method for obtaining electrical energy from a vehicle tire while said tire is rotating upon a load-bearing surface, the method comprising the steps of:

coupling an electrical energy converting device to the load-induced deflections of at least one tire inner wall, wherein the source resistance of the energy converting device is known;

determining at least one feature of the electrical energy pulses;

capturing the electrical energy pulses on a capturing mechanism;

adapting the capturing mechanism to maximize the electrical energy capture based on at least one feature of the pulses and said at least one feature comprises the ratio of the pulse width to the resistance; and

outputting the captured electrical energy;

Claim 88 (canceled):

Claim 89 (currently amended): A device, adapted to be mounted on a rotating vehicle tire while rotating upon a load-bearing surface, for maximizing the captured electrical pulsed energy generated ~~from~~ generated by an energy source coupled to the load-induced tire deflections and generating at least one energy pulse per tire rotation, the device comprising:

capture electronics for capturing said pulsed electrical output energy, wherein said electronics monitors at least one characteristic of said at least one pulse per revolution and maximizes the captured energy by adaptation to ~~at least one~~ said at least one characteristic ~~of the pulsed electrical energy~~ , wherein said capture electronics comprises at least two energy storage capacitors and said adaptation comprises selecting the combination of said capacitors.

Claim 90 (currently amended): The device according to claim 89, wherein said at least one characteristic is the incoming pulse width of the generated pulsed energy.

Claim 91(currently amended): The device according to claim 89, wherein said at least one characteristic is~~, further,~~ the ratio of the incoming pulse width of the pulsed ~~electrical~~ energy to the source resistance of the energy source.

Claim 92 (currently amended): The device according to claim 89, wherein said at least one characteristic is the incoming voltage of the pulsed ~~electrical~~ energy.

Claim 93 (currently amended): The device according to claim 89, wherein said at least one characteristic is the energy captured.

Claim 94 (previously presented): The device according to claim 89, wherein the energy source comprises a piezo-electric device.

Claim 95 (previously presented): The device according to claim 89, wherein the energy source comprises a magnet and coil combination.

Claim 96 (canceled):

Claim 97 (previously presented): The device according to claim 89, further comprising:

a substrate on which said electronics is mounted; and

a base plate securing said substrate to the tire.

Claim 98 (previously presented): The device according to claim 97, wherein said base plate further has opposed parallel inner and outer surfaces and a periphery, said outer surface engaging an inner surface of the tire, and said device further comprises:

a patch overlying the inner surface of said base plate, said base plate being sandwiched between said patch and said inner surface of the tire, said patch further having a portion extending beyond said periphery of the base plate, said portion of said patch being bonded to said inner surface of the tire, and wherein said patch includes an aperture through which the substrate projects and is flexibly held to the tire.

Claim 99 (currently amended): A method ~~for maximizing~~ to maximize the captured electrical pulsed energy generated ~~from~~ by an energy source coupled to the load-induced tire deflections, the method comprising the steps of:

causing the tire to rotate on a load-bearing surface such that the energy source generates at least one energy pulse per rotation;

~~determining at least one feature of the electrical energy pulses;~~

capturing the incoming ~~electrical~~ energy pulses on a ~~capturing~~ mechanism;

monitoring at least one feature of the incoming energy pulses;

adapting the capturing mechanism to maximize the ~~electrical~~ energy capture based on said at least one feature ~~of the pulses~~ wherein the adaptation is to select a combination from at least two energy storage capacitors; and

outputting the captured electrical energy.

Claim 100 (currently amended): The method according to claim 99, wherein said at least one feature comprises the incoming pulse width.

Claim 101 (currently amended): The method according to claim 99, wherein the source resistance of the energy generating device is known and said at least one feature ~~further~~ comprises the ratio of the incoming pulse width to the resistance.

Claim 102 (currently amended): The method according to claim 99, wherein said at least one feature comprises the ~~voltage of the energy captured~~ incoming pulse voltage .

Claim 103 (previously presented): The method according to claim 99, wherein said at least one feature comprises the energy captured.

Claim104 (canceled):

Claim 105 (canceled):